

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

## Derwent Record

View: [Expand Details](#) Go to: [Delphion Integrated View](#) [Em](#)

**Derwent Title:** Hydrophilising agent for synthetic fibres, esp. acrylonitrile - contains polymeric pyrrolidinium salt, ethoxylated betaine cpd and ethoxylated sulphobetaine sulphinate or sulphonate

**Original Title:** ☒ [DE4316666C1](#): Hydrophilierungsmittel

**Assignee:** MAERKISCHE FASER PREMnitz AG Non-standard company  
 BALLSCHUH D Individual  
 ENGELBRECHT L Individual  
 OHME R Individual  
 SEIBT H Individual

**Inventor:** BALLSCHUH D; ELLMANN R; ENGELBRECHT L; OHME R; SCHMIDT B; SCHOENING K; SEIBT H;

**Accession/Update:** 1995-007368 / 199502

**IPC Code:** D06M 15/356 ; C04B 16/06 ; D06M 13/244 ; D06M 15/53 ;

**Derwent Classes:** [A87](#); [E16](#); [F06](#); [L02](#); [A14](#);

**Manual Codes:** [A04-B](#)(Others) , [A04-D02B](#)(Fibres, textiles) , [A08-S02](#) (Solvents; swelling agents) , [A08-S08](#)(Absorption agents; repellance agents) , [A10-E01](#)(General) , [A12-S05S](#)(Antistatic, surfactant, softener or lubricant treatments) , [E10-A09B8](#)(no ring(s) present) , [E10-A22D](#)(No Aromatic ring - with acid (derivative)) , [F01-D02](#)(Acrylic and modacrylic fibres) , [F03-D04](#)(Fabric structures designed for reinforcement of solid materials) , [L02-D05](#)(Reinforced and pre-stressed concretes)

**Derwent Abstract:** ([DE4316666C](#)) A hydrophilising agent (I) for the treatment of synthetic fibres, esp. reinforcing and process fibres based on polyacrylonitrile (PAN) for use in hydraulic binders, comprises (A) 4-12 wt.% polymeric pyrrolidinium salt, (B) 4-13 wt.% ethoxylated alkyl- or dialkyl-ammonium betaine and (C) 4-7 wt.% alkyl-bis-(polyoxyethylene)-ammonium-sulphobetaine sulphinate and/or sulphonate as main components in the mole ratio 1:1:1, together with (D) 1-5 wt.% non-ionic surfactant, (E) 5-10 wt.% low-mol. wt. alcohol or diol, (F) 0.05-2 wt.% foam inhibitor and (G) 0.05-2 wt.% auxiliary film former, made up to 100 wt.% with water.

**Use** - Used esp. for the modification of PAN fibres for use as reinforcement in building materials, friction linings, etc.

**Advantage** - Enables the hydrophilic properties of synthetic fibre to be modified independently of the intended matrix (cement, etc.). The hydrophilising film is deposited from dil. aq. soln. as a complex which can then form a silicate film which also protects the fibre surface from the alkali in the binder.

[Dwg.0/0](#)

**Family:** PDF Patent Pub. Date Derwent Update Pages Language IPC Code  
☒ [DE4316666C1](#) \* 1994-12-08 199502 6 German D06M 15/356

Local appl.: [DE1993004316666](#) Filed:1993-05-13 (93DE-4316666) INPADOC[Show legal status actions](#)

Legal Status:

 First Claim:

[Show all claims](#) 1. Hydrophilierungsmittel zur Ausrüstung von Synthesefasern für technische Einsatzgebiete, insbesondere von Armierungs- und Prozeßfasern auf Acrylnitrilbasis, für den Einsatz in hydraulischen Bindern, bestehend aus

4 bis 12 Gew.-% eines polymeren Pyrrolidiniumsalzes,

4 bis 13 Gew.-% eines oxethylierten Alkyl- oder Dialkylammoniumbetains sowie

4 bis 7 Gew.-% eines Alkyl-bis(polyoxyethylen)-ammoniumsulfobetain-sulfonats und/oder -sulfobetain-sulfonats als Hauptkomponenten und

1 bis 5 Gew.-% eines nichtionischen Tensids,

5 bis 10 Gew.-% eines niedermolekularen Alkohols oder Diols,

0,05 bis 2 Gew.-% eines Schauminhibitors,

0,05 bis 2 Gew.-% eines unterstützenden Filmbildners und Ausgleich auf 100 Gew.-% mit Wasser, wobei die Hauptkomponenten im Molverhältnis 1 : 1 : 1 vorliegen.

 Priority Number:

| Application Number              | Filed      | Original Title         |
|---------------------------------|------------|------------------------|
| <a href="#">DE1993004316666</a> | 1993-05-13 | HYDROPHILIERUNGSMITTEL |

 Chemical[Show chemical indexing codes](#)

Indexing Codes:

 Markush[Show Markush numbers](#)

Compound

Numbers:

 Extended[Show extended polymer index](#)

Polymer Index:

 Related

Accessions:

| Accession Number | Type | Derwent Update | Derwent Title |
|------------------|------|----------------|---------------|
| C1995-002685     | C    |                |               |
| 1 item found     |      |                |               |

 Title Terms:

HYDROPHILIC AGENT SYNTHETIC FIBRE ACRYLONITRILE CONTAIN  
 POLYMERISE PYRROLIDINIUM SALT ETHOXYLATION BETAIN COMPOUND  
 ETHOXYLATION SULPHINATE SULPHONATE

[Pricing](#) [Current charges](#)
**Derwent Searches:** [Boolean](#) | [Accession/Number](#) | [Advanced](#)

Data copyright Thomson Derwent 2003